

## OPTOELECTRONIC SENSOR

### Abstract of the Disclosure

A device for detecting the presence of an antigen including (1) a cell having  
5 antibodies which are expressed on the surface of the cell and are specific for the antigen to be  
detected, where binding of the antigen to the antibodies results in an increase in calcium  
concentration in the cytosol of the cell, the cell further having a emitter molecule which, in  
response to the increased calcium concentration in the cytosol, emits a photon; (2) a liquid  
medium for receiving the antigen and in which the cell is immersed; and (3) an optical  
10 detector arranged for receiving the photon emitted from the cell.